Reg. No. :

Question Paper Code: 41153

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fifth Semester

Civil Engineering

14UCE503 - RAILWAYS, AIRPORT AND HARBOUR ENGINEERING

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Coning of wheels is provided to

- (a) check lateral moment of wheel (b) avoid damage to inner faces of rail
- (c) avoid discomfort to passengers (d) all the above
- 2. The sleepers which satisfy the requirements of an ideal sleeper are
 - (a) Cast iron Sleepers(b) RCC Sleepers(c) wooden Sleepers(d) Steel Sleepers
- 3. Track construction involves preparation of

(a) Sub grade	(b) Plate laying
(c) Ballasting	(d) All the above

4. The quantity of stone ballast required per meter tangent length, is

(a) $1.15m^3$	(b) 1.14 m ³	(c) 1.11 m^3	(d) 1.13 m^3

- 5. The meteorological to I.C.A.O the slope of transitional surface at right angles to the centre line of runway, is kept
 - (a) 1 in 4 (b) 1 in 7 (c) 1 in 6 (d) 1 in 5

For the proposed airpo	rt, the survey pro	ject provides			
(a) Topographic pl (c) drainage plan	an	(b) Grading Plan(d) all the above			
7. The maximum length and pavement strength of the runway is that of					
(a) A1	(b) B2	(c) B3	(d) G7		
8. According to I.C.A.O all markings on the runways are painted white and on taxiways					
(a) Black	(b) red	(c) yellow	(d) green		
9. The width of the entrances of the harbours is restricted to					
(a) 100m	(b) 125m	(c) 150m	(d) 180m		
10. The shape of docks and basins is generally kept					
(a) Rectangular wa(c) inclined guys	ys	(b) diamond shape guy(d) all the above	S		
	PART - B ((5 x 2 = 10 Marks)			
What are the different	types of curves?				
Define station yards.					
13. Define cross wind component and wind coverage.					
Define terminal buildin	ıg?.				
Differentiate between	wharf and Jetty.				
	PART - C (5 x 16 = 80 Marks)			
(a) Describe in detail railway track.	the various sur	rveys which are conduc	ted before laying a new (16)		
		Or			
(b) Compare the flat-f	poted rail and bu	ll headed rails.	(16)		
(a) Explain, with near	sketches, how	surface and sub – surfac	ce water can be removed		
	For the proposed airpor (a) Topographic pl (c) drainage plan The maximum length a (a) A1 According to I.C.A.O a (a) Black The width of the entrar (a) 100m The shape of docks and (a) Rectangular wa (c) inclined guys What are the different to Define station yards. Define cross wind com Define terminal buildin Differentiate between w (a) Describe in detail railway track.	For the proposed airport, the survey pro- (a) Topographic plan (c) drainage plan The maximum length and pavement struct (a) A1 (b) B2 According to I.C.A.O all markings on the (a) Black (b) red The width of the entrances of the harboo (a) 100m (b) 125m The shape of docks and basins is generat (a) Rectangular ways (c) inclined guys PART - B (What are the different types of curves? Define station yards. Define cross wind component and wind Define terminal building?. Differentiate between wharf and Jetty. PART - C (a) Describe in detail the various sur- railway track.	For the proposed airport, the survey project provides (a) Topographic plan (b) Grading Plan (c) drainage plan (d) all the above The maximum length and pavement strength of the runway is that (a) A1 (b) B2 (c) B3 According to I.C.A.O all markings on the runways are painted w (a) Black (b) red (c) yellow The width of the entrances of the harbours is restricted to (a) 100m (b) 125m (c) 150m The shape of docks and basins is generally kept (a) Rectangular ways (b) diamond shape guy (c) inclined guys (d) all the above PART - B (5 x 2 = 10 Marks) What are the different types of curves? Define station yards. Define terminal building?. Differentiate between wharf and Jetty. PART - C (5 x 16 = 80 Marks) (a) Describe in detail the various surveys which are conduct railway track. (a) Explain, with neat sketches, how surface and sub – surfact from a railway track.		

Or

- (b) Briefly explain about the different types of station yards also explain the functioning and types of marshalling yard. (16)
 18. (a) What are the factors which influence the location of an airport? (16)
 Or
 (b) Mention the standards laid down by ICAO for the layout of the imaginary surfaces. (16)
 19. (a) Describe the various elements of the airport lighting. (16)
 Or
 (b) Briefly discuss the various geometric standards for the taxiway with special reference to the recommendations of the ICAO. (16)
- 20. (a) Discuss the different types of gravity wharves and the circumstances under which you will select each type. (16)

Or

(b) What are the off-shore breakwaters? Explain their functions. (16)

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